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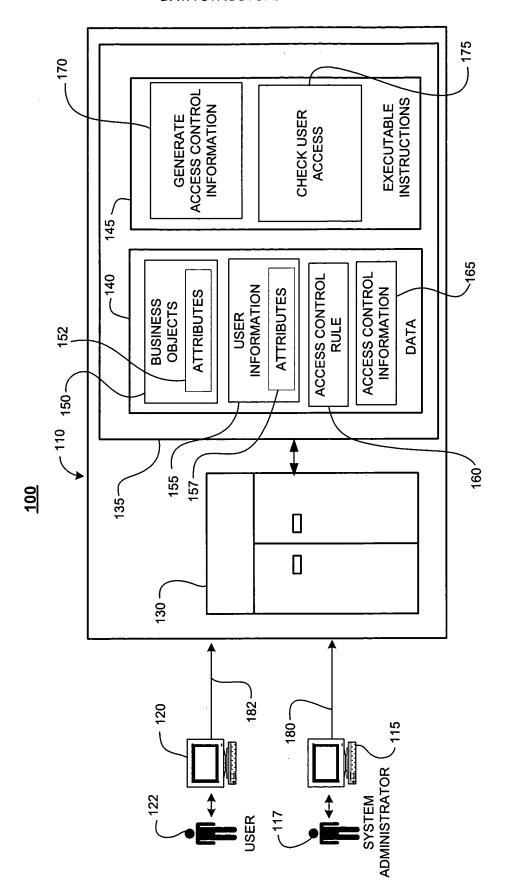
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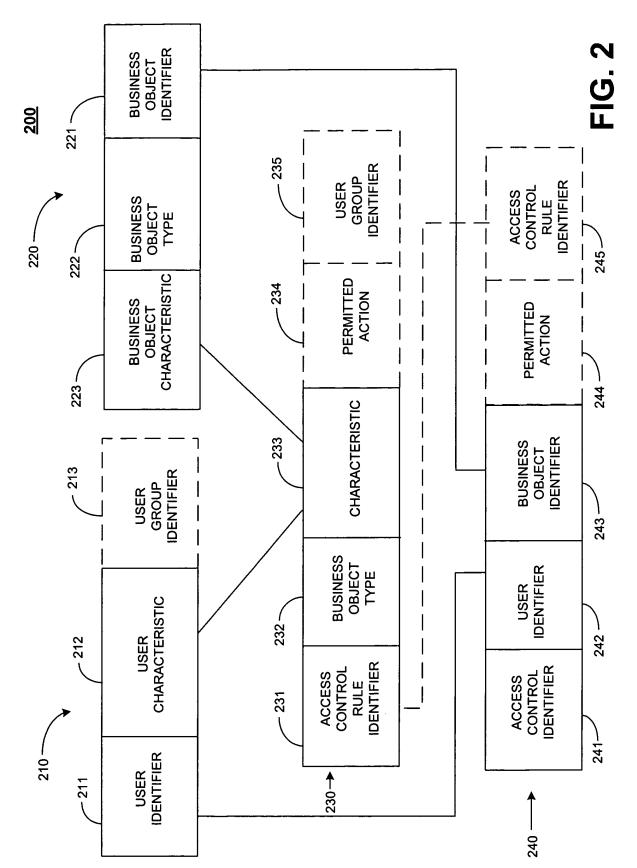
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DATA STRUCTURE FOR ACCESS CONTROL



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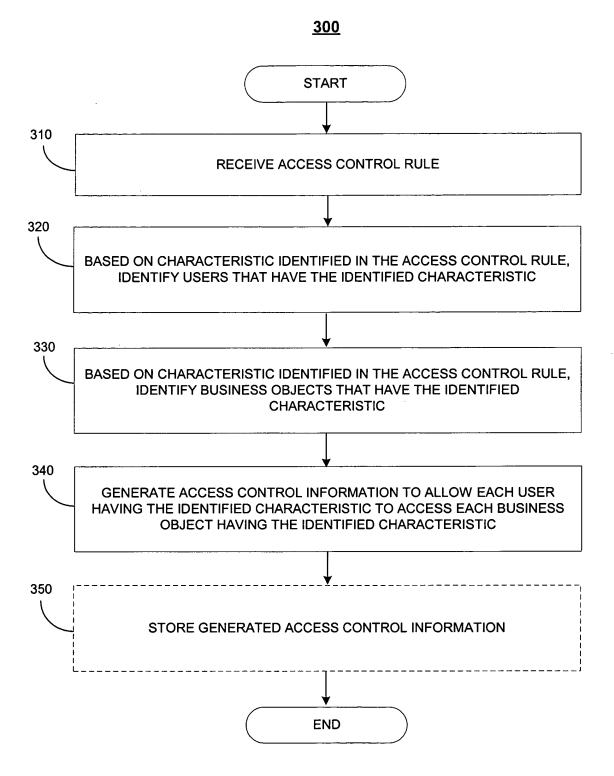
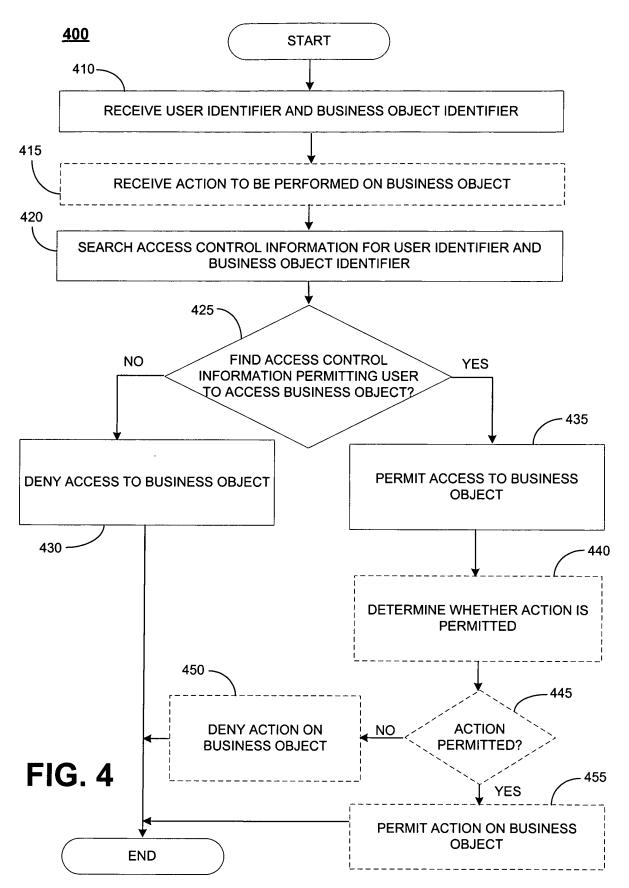


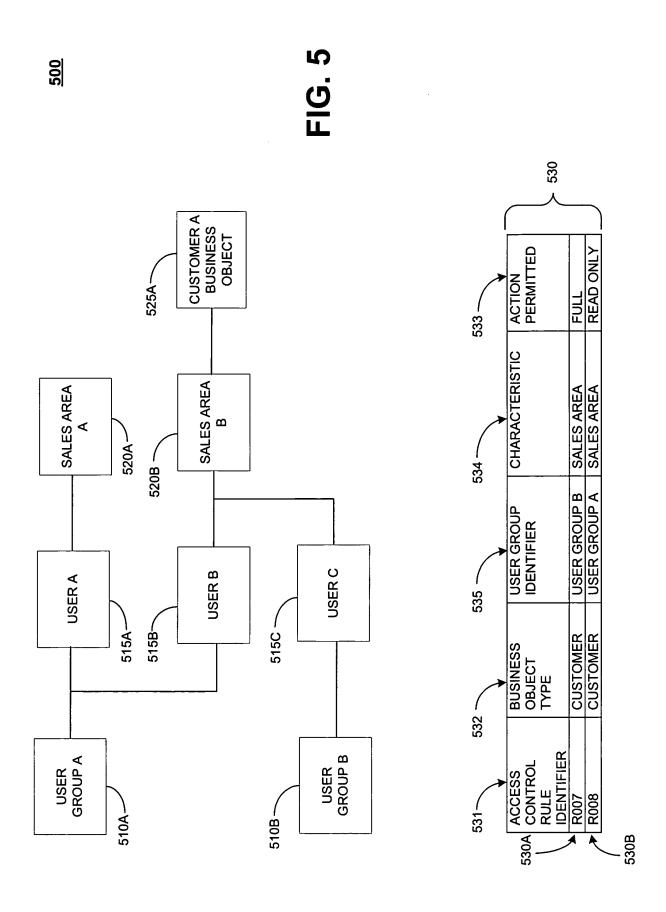
FIG. 3

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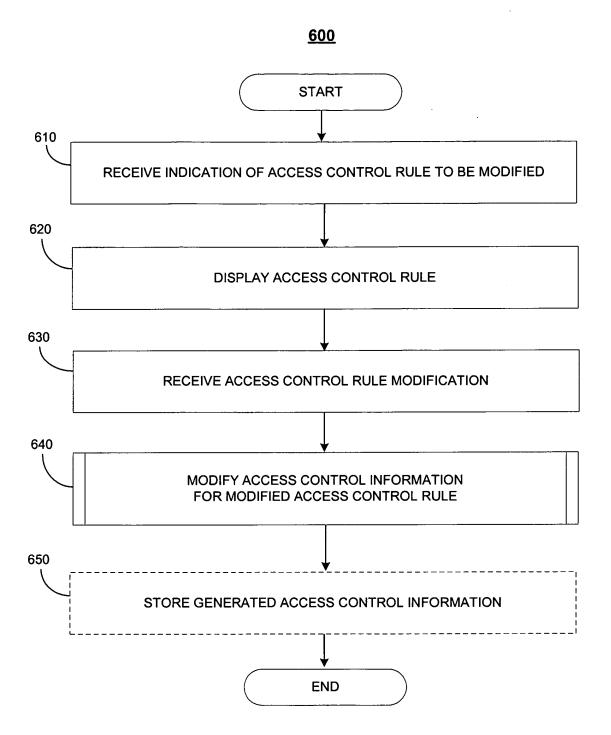
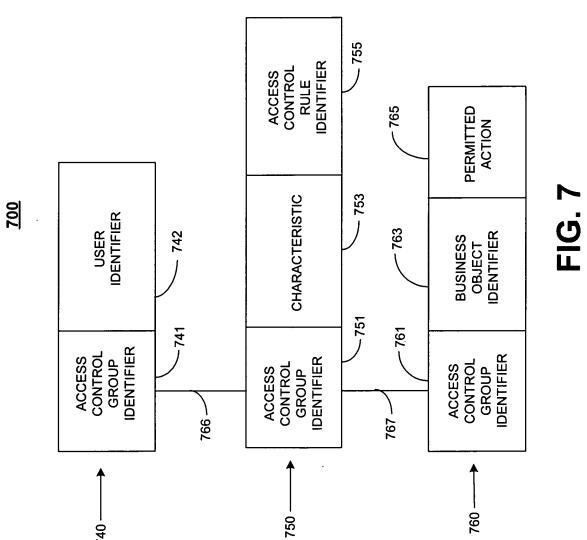


FIG. 6

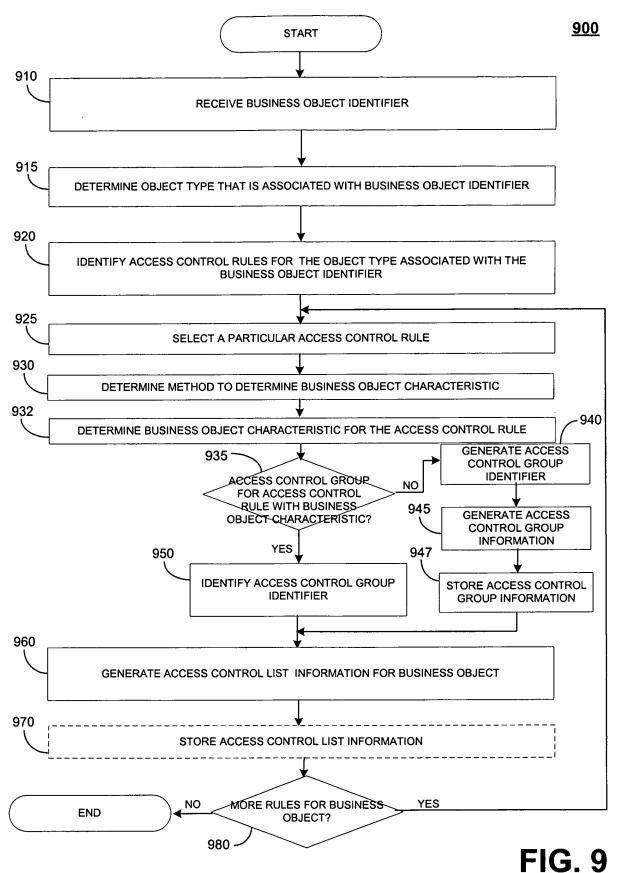
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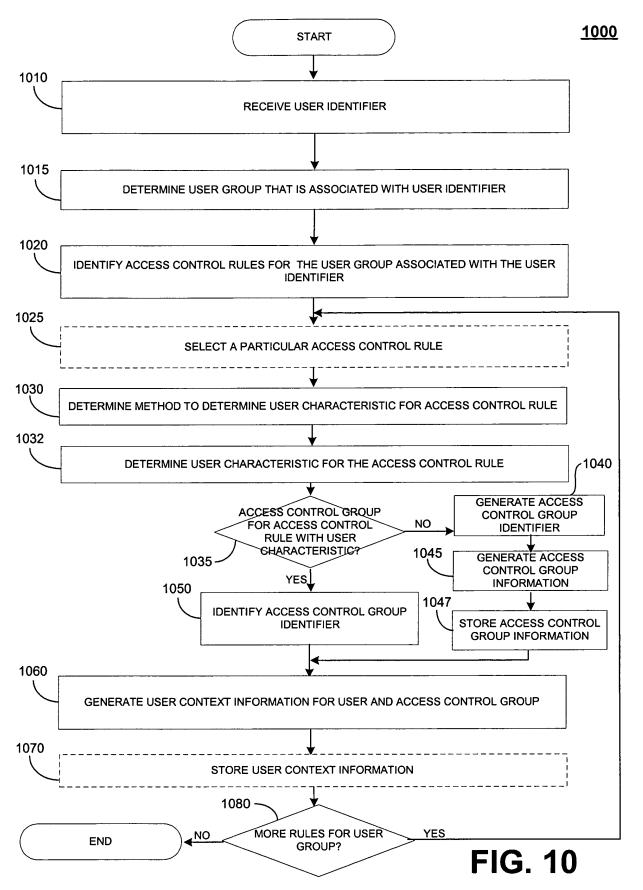
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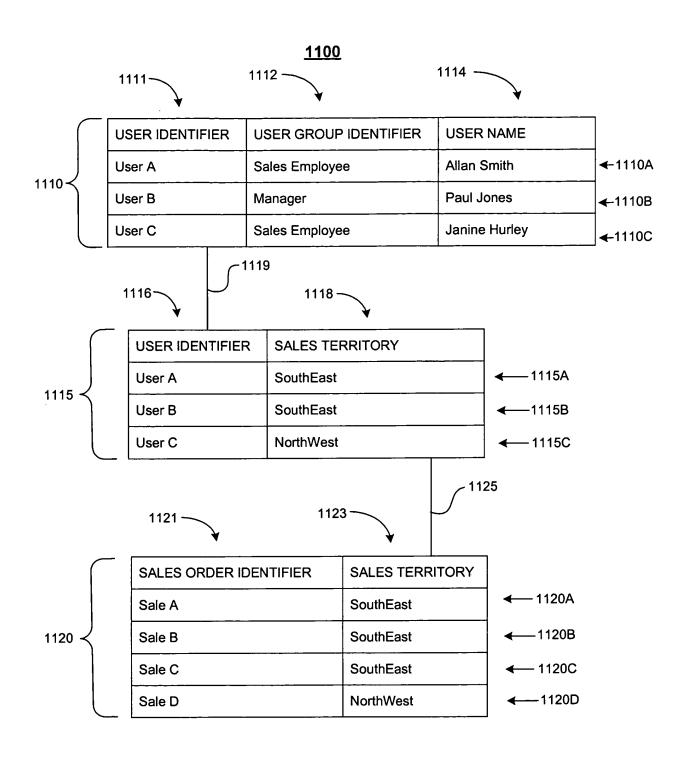
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**FIG. 11A** 

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**←** 1160C **←**1160B -1160A **←**1150C **←**1150B GetSalesTerritoryForObject **GetSalesTerritoryForObject** METHOD TO DETERMINE -1167 SALES OBJECT SALES OBJECT **OBJECT TYPE GetOrgUnitForObject** BUSINESS OBJECT CHARACTERISTIC EMPLOYEE OBJECT 1159 PERMITTED ACTION GetHierarchicalSalesTerritories CHANGE METHOD TO DETERMINE READ READ **USER CHARACTERISTIC** GetSalesTerritoryForUser **GetOrgUnitForUser** -1165 1157 CharacterMethod01 Character/Method02 CharacterMethod03 1100 CHARATER DENTIFIER METHOD ORGANIZATIONAL UNIT 1155 -CHARACTERISTIC TYPE -1163SALES TERRITORY TERRITORY USER GROUP IDENTIFIER SALES EMPLOYEE **EMPLOYEE** SALES MANAGER -1161 1153~ CharacterMethod03 CharacterMethod02 CharacterMethod01 CHARACTER RULE IDENTIFIER DENTIFIER METHOD Rule03 Rule01 Rule02 1160 < 1150

FIG. 11B

Applicant(s): Matthias Vogel et al. DATA STRUCTURE FOR ACCESS CONTROL <u>1200</u> 1242 -1241-**USER IDENTIFIER** ACCESS CONTROL **GROUP IDENTIFIER ←** 1240A User A ACgroup1 1240-**←** 1240B User B ACgroup2 -1240C ACgroup3 User C 1253 1251--1255 1270-**ACCESS CONTROL** CHARACTERISTIC **ACCESS CONTROL GROUP IDENTIFIER RULE IDENTIFIER ←** 1250A ACgroup1 Sales Territory = SouthEast Rule01 ACgroup2 Sales Territory = SouthEast Rule02 **←**—1250B ACgroup3 Rule01 Sales Territory = NorthWest **←**1250C ACgroup4 Sales Territory = NorthWest Rule02 **←**1250D 1275-1261-1265 -1263 -**ACCESS CONTROL BUSINESS OBJECT** PERMITTED ACTION **GROUP IDENTIFIER IDENTIFIER ←**1260A ACgroup1 Sale A Read, Write ACgroup2 Sale A Read **←**1260B ACgroup1 Sale B Read, Write **←**-1260C 1260° ACgroup2 Sale B Read **←**1260D ACgroup1 Sale C Read, Write **←**1260E

ACgroup2

ACgroup3

ACgroup4

Sale C

Sale D

Sale D

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**FIG. 12** 

**←**1260F

**←**1260G

**←**1260H

Read

Read

Read, Write

DATA STRUCTURE FOR ACCESS CONTROL 1300 **START** 1310 RECEIVE USER IDENTIFIER AND BUSINESS OBJECT IDENTIFIER 1315 RECEIVE ACTION TO BE PERFORMED ON BUSINESS OBJECT 1317 ACCESS ACCESS CONTROL LIST INFORMATION AND USER CONTEXT INFORMATION 1320 DETERMINE WHETHER AN ACCESS CONTROL GROUP IDENTIFIER IS ASSOCIATED WITH BOTH THE RECEIVED USER IDENTIFIER AND THE RECEIVED BUSINESS OBJECT IDENTIFIER 1325-1335 -1330 -CORRESPONDING NO YES PERMIT ACCESS TO **DENY ACCESS TO** ACCESS CONTROL **BUSINESS OBJECT BUSINESS OBJECT** GROUP IDENTIFIER? 1340 **DETERMINE WHETHER** ACTION IS PERMITTED -1345 1350 -DENY ACTION ON BUSINESS NO **ACTION** PERMITTED? OBJECT 1355 YES PERMIT ACTION ON BUSINESS **OBJECT END** 

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**FIG. 13**